

ExEP Technology Capability Input Form

Instructions

Use this form to submit to the Astrophysics Division's Exoplanet Exploration Program (ExEP) Office information on technology gaps for future strategic NASA exoplanet missions. Since all gaps considered last year will be reevaluated along with new submissions, submit one of those only if you're suggesting a modification. The latest Program Technology Plan Appendix can be found [here](#).

Understanding and addressing the gaps between current technology capabilities and those needed for future applications and missions is critical to enabling mission success. This form is intended to describe a technology capability that needs to be filled to enable a future exoplanet mission mentioned in the 2010 Astrophysics Decadal Survey ([New Worlds, New Horizons](#)), [Astrophysics Implementation Plan](#), or Astrophysics 30 Year Roadmap ([Enduring Quests, Daring Visions](#)).

The Program Office will use the information you provide in this form to assess how this technology capability affects potential future missions and to gauge the impact a successful technical solution would provide. That information will guide our Technology Selection and Prioritization Process that feeds into the ExEP Technology Gap Lists, informing future Strategic Astrophysics Technology (SAT) calls and selections, as well as Program technology planning.

Please send your completed input form to Brendan.P.Crill@jpl.nasa.gov. Inputs received by August 26 will be incorporated into that year's Technology Selection and Prioritization Process. Inputs received after that cutoff date will be included in the following year's process. Early submittals are appreciated.

ExEP Technology Needs and Prioritization Information

Description of the Enabling Technology Capability Needed: Describe the technology capability need and its associated key performance parameters. The technology capability should be enabling; enhancing technologies will be accepted but will not be included in the Technology Gap Lists.

Description of the Current State-of-the-Art: Describe the current state-of-art of relevant technologies that may fill this capability gap partially or imperfectly. Describe their performance capabilities and functional shortcomings relative to applicable exoplanet missions and application needs. Describe its current Technology Readiness Level (TRL). Base your TRL estimates on the definitions given by NASA Procedural Requirement (NPR) [7123.1B, Appendix E](#).

Note that the SAT program funds technology maturation in the mid-TRL range (3–5). Thus, gaps where the relevant technologies expected to completely fulfil the needs are at a TRL of 6 or higher will not be considered.

Scientific, Engineering, and/or Programmatic Benefits: Describe the scientific, engineering, and/or programmatic benefits of filling this technology gap, and state the expected mission-enabling impact. Mission-enhancing technologies may be submitted but will not be part of the Technology Gap Lists.

Applications and Potential Relevant Missions for the ExEP: Identify potential missions or applications that would benefit from technologies that can fill this capability gap, concentrating on exoplanet missions.

Estimated Need Date of TRL-5 Milestone: Assume the system level must reach TRL-5 as a necessary condition before a given mission start.

ExEP Program Technology Capability Input Form		
<u>Technology Capability Name:</u>		<u>Date Submitted:</u>
<u>Submitter Name:</u>	<u>Organization:</u>	
<u>Telephone:</u>	<u>Email Address:</u>	
Technology Capability Information (see instructions above)		
<u>Description of the Enabling Capability Needed (be as quantitative as possible):</u>		
<u>Description of the Current State-of-Art (SoA) (be as quantitative as possible):</u>	<u>Current TRL of SoA:</u>	
	<u>Current TRL of Full Solution:</u>	
<u>Scientific, Engineering, and/or Programmatic Benefits:</u>		
<u>Applications and Potential Relevant Missions for the ExEP:</u>		
<u>Estimated Need Date of TRL-5 Milestone (assuming TRL-5 at the system level is a necessary condition before a given mission start):</u>		
Internal Use		
Received By:		Date Received: